

REMARKS

Claims 1-2 and 4-9 remain pending in the instant application and stand ready for further action on the merits. Favorable action on the merits is earnestly solicited at present, as is an early allowance of the pending claims.

Claim Rejections under 35 U.S.C. §§ 102(b) and 103(a)

Claims 1, 2, 4-7 and 9 are rejected under 35 U.S.C. § 102(b) as being anticipated by **Nakajima et al. WO '010** (WO 02/031010) (*with EP 1,270,624 A1 being relied on by the USPTO as an English translation of WO 02/031010*).

Claim 8 is rejected under 35 U.S.C. § 102(b) as anticipated by or in the alternative, under 35 U.S.C. § 103(a) as obvious over **Nakajima et al. WO '010** (WO 02/031010) with additional evidence provided by www.mrinkjet.com/inkreport.htm (*with EP 1,270,624 A1 being relied on by the USPTO as an English translation of WO 02/031010*).

Reconsideration and withdrawal of each of the above rejections is respectfully requested based on the following considerations.

Legal Standard for Determining Anticipation

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art." *Brown v. 3M*, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir.

2001) "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Legal Standard for Determining Prima Facie Obviousness

MPEP § 2141 sets forth the guidelines in determining obviousness. First, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), which has provided the controlling framework for an obviousness analysis. The four *Graham* factors are:

- (a) determining the scope and content of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating any evidence of secondary considerations.

Graham v. John Deere, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

Second, the Examiner has to provide some rationale for determining obviousness. MPEP § 2143 sets forth some rationales that were established in the recent decision of *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). Exemplary rationales that may support a conclusion of obviousness include:

- (a) combining prior art elements according to known methods to yield predictable results;

- (b) *simple substitution of one known element for another to obtain predictable results;*
- (c) *use of known technique to improve similar devices (methods, or products) in the same way;*
- (d) *applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;*
- (e) *"obvious to try" – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success*
- (f) *known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;*
- (g) *some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.*

As the MPEP directs, all claim limitations must be considered in view of the cited prior art in order to establish a *prima facie* case of obviousness. See MPEP § 2143.03.

Incorporation-by-Reference of Earlier filed Remarks

The Rejections set forth in the outstanding office action are basically identical to those set forth in the earlier Office Action of August 13, 2008, to which a reply was filed on November 13, 2008. As such, the Examiner is respectfully requested to review and consider remarks set forth in the November 13, 2008 reply at pages 6-8 thereof, since the same remarks continue to support the patentability of the instant claims over the cited art of record. Accordingly, such remarks are incorporated herein by reference in their entirety.

The Instant Invention and Its Advantages

Independent claim 1 of the instant invention recites as follows:

An aqueous dispersion containing a water-insoluble solid, wherein the solid consists of fine particles surfaces of which are coated with a resin having a polyether structure, and a coated amount of the resin is 15 to 1,000 parts by weight per 100 parts of the solid; and

wherein said resin having a polyether structure has an acid value of 5 to 70 KOH-mg/g.

In particular, the present invention provides an aqueous dispersion which has improved dispersion stability for a wide variety of solids such as pigments, dyes, and so on, causes no problems such as precipitation of the solid particles during the storage of the dispersion, and thus can be stably stored for a long time, since the dispersion of the present invention contains fine particles of a water-insoluble solid which are coated with a resin having a polyether structure, and the coated amount of the resin is 15 to 1,000 parts by weight per 100 parts of the solid. When a pigment is used as the above solid, the present invention can provide an aqueous dispersion used as an ink-jet printing ink, which has good high speed printing properties.

Distinctions Over the Cited Art

In the outstanding office action, in the section titled "Response to Arguments," the USPTO states that "Nakajima teaches the coating of the pigments by the resin in paragraph [0047]."

In response Applicants note that Nakajima et al. WO '010 may clearly describe in paragraph [0047] that "the pigment dispersion resin is therefore required to have both wettability with regard to pigment and pigment dispersion stability."

[0047] The pigment dispersing resin of this invention which comprises copolymer produced in the afore-mentioned manner is used for the preparation of water-based pigment dispersion. The pigment dispersion resin is therefore required to have both wettability with regard to pigment and pigment dispersion stability. Monomer (A) component which constitutes the pigment dispersing resin of this invention is capable of improving the adsorption of pigment dispersing resin to pigment, and thus acts advantageously for the improvement both in wettability with regard to pigment and in the dispersion stability of resin. Monomer (B) component which constitutes the pigment dispersing resin of this invention contributes to the improvement of pigment dispersing resin in the solubility in continuous phase (aqueous medium), and acts advantageously in particular for the improvement of pigment dispersing resin in dispersion stability. Furthermore, copolymerization with use of tertiary amino group-containing polymerizable unsaturated monomer in combination with monomer (A) provides a pigment dispersing resin which has remarkably improved capability to disperse black (carbon black) pigment which is said to be especially difficult to be dispersed. (Emphasis Added).¹

However, this disclosed wettability of the resin to the pigment does not necessarily mean the coating of the pigment with the resin. Although a part of the resin may be adsorbed on the pigment particles, the pigment particles may not actually be surrounded (or coated) by the resin.

As explained below, a comparison of the method of the present invention (method for preparing an aqueous dispersion of solid particles) with the preparation method of Nakajima et al. WO '010 suggests that Nakajima et al. WO '010 does not disperse the pigment particles by coating them with the resin.

The resin used in the present invention to disperse the pigment is not dissolved in water but is instead self dispersed in water.

¹ This quoted passage is actually paragraph [0047] of EP 1 270 624 A1, which is being relied on by the USPTO as an English language translation of WO 02/031010.

In contrast, Nakajima et al. WO '010 synthesizes a dispersion resin with the intent to dissolve a part of the resin in water. This is apparent from its use of Monomer (B) which "contributes to the improvement of pigment dispersing resin in the solubility in continuous phase (aqueous medium)" (*Emphasis Added; see paragraph [0047] reproduced above*).

The present invention uses a dispersing resin which is self-dispersible in water, in other words, which is insoluble in water (*e.g., see page 3, lines 5-7 of the instant specification*):

...This may be because the resin having the polyether structure is easily self-dispersed in water....

In this regard, the solubility of the resin in water increases as the hydrophilicity of the resin increases so that the adhesion (bonding) of the resin to a solid surface tends to decrease. Thus, when Polymer A, which was prepared in Synthesis Example 1, was added to water, its particle size could be measured. This means that Polymer A is self-dispersed in water in the form of particles. (*See page 20, line 22 to page 21, line 22 of the instant specification*).

In Nakajima et al. WO '010, an aqueous (water-based) pigment dispersion, an aqueous paint composition or an aqueous ink composition is prepared by simply mixing components. This means that the dispersing resin partly adheres to a pigment so as to disperse the pigment in the medium.

In contrast, according to the present invention, an aqueous dispersion containing a water-insoluble solid is prepared by mixing water and an organic phase containing a water-insoluble solid and a resin having a polyether structure by making use of the self-dispersing property of the resin, *i.e.*, the emulsification of the resin. Thereby, solid particles having the deposited resin on their surfaces are precipitated.

Accordingly, **Nakajima et al. WO '010** does not disclose solid particles the surfaces of which are coated with a resin having a polyester structure, or a method for preparing an aqueous dispersion containing such coated particles.

Based on the above considerations, it is submitted that the cited art of record is incapable of either anticipating the instant invention as claimed or rendering the same obvious since the same references fail to teach or provide for each of the limitations recited in the pending claims, and fail to provide those of ordinary skill in the art with any reason or rationale that would allow them to arrive at the instant invention as claimed. Any contentions of the USPTO to the contrary must be reconsidered at present.

Conclusion

Based on the remarks presented herein, the USPTO is respectfully requested to issue a Notice of Allowance in the matter of the instant application clearly indicating that each of instantly pending claims 1-2 and 4-9 are allowed and patentable under the provisions of Title 35 of the United States Code.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John W. Bailey, Reg. No. 32,881 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Application No. 10/554,635
Amendment dated March 5, 2009
After Final Office Action of December 5, 2008

Docket No.: 0020-5434PUS1

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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